

ABSTRACT

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A system (300, 500) for scrambling digital samples (115, 200, 250, 260, 270) of multimedia data, including audio and video data samples, such that the content of the samples is degraded but still recognizable, or otherwise provided at a desired quality level. The samples may be in any conceivable compressed or uncompressed digital format, including Pulse Code Modulation (PCM) samples, samples in floating point representation, samples in companding schemes (e.g., μ -law and A-law), and other compressed bit streams. The quality level may be associated with a particular signal to noise ratio, or quality level that is determined by objective and/or subjective tests, for example. A number of LSBs can be scrambled in successive samples in successive frames (FRAME A, FRAME B, FRAME C). Moreover, the parameters for scrambling may change from frame to frame. Furthermore, all or part of the scrambling key (310) can be embedded (340) in the scrambled data and recovered at a decoder (400, 600) to be used in descrambling. After descrambling, the scramble key is no longer recoverable because the scramble key itself is scrambled by the descrambler.